

What is claimed is:

1. A laser apparatus comprising:

a block having a stepped shape formed with a plurality of mount portions which have different heights and are arranged in a first direction parallel to an optical axis in order of height; and

a plurality of sets of a collimator-lens array and a plurality of laser diodes, where the collimator-lens array in each of the plurality of sets is constituted by a plurality of collimator lenses which are arranged along a second direction and collimate laser beams emitted from the plurality of laser diodes in said each of the plurality of sets;

wherein said plurality of laser diodes and said collimator-lens array in each of said plurality of sets are fixed to one of said plurality of mount portions so that light-emission points of the plurality of laser diodes in each of the plurality of sets are aligned in a third direction.

2. A laser apparatus according to claim 1, wherein a bottom surface of said collimator-lens array in said each of said plurality of sets is fixed to an upper surface of said one of said plurality of mount portions so that the collimator-lens array is supported by the upper surface of said one of said plurality of mount portions.

3. A laser apparatus according to claim 1, wherein

said plurality of laser diodes in each of the plurality of sets is fixed to a surface of one of the plurality of mount portions, and reference marks which indicate fixation positions of the plurality of laser diodes are arranged on said surface of said one of the plurality of mount portions.

4. A laser apparatus according to claim 2, wherein said plurality of laser diodes in each of the plurality of sets is fixed to a surface of one of the plurality of mount portions, and reference marks which indicate fixation positions of the plurality of laser diodes are arranged on said surface of said one of the plurality of mount portions.

5. A laser apparatus according to claim 1, wherein said plurality of laser diodes in each of the plurality of sets are realized by a multicavity laser diode chip having said light-emission points.

6. A laser apparatus according to claim 2, wherein said plurality of laser diodes in each of the plurality of sets are realized by a multicavity laser diode chip having said light-emission points.

7. A laser apparatus according to claim 1, wherein said plurality of laser diodes in each of the plurality of sets are realized by a plurality of multicavity laser diode chips each having a plurality of light-emission points.

8. A laser apparatus according to claim 2, wherein said plurality of laser diodes in each of the plurality of sets are realized by a plurality of multicavity laser diode chips each having a plurality of light-emission points.

9. A laser apparatus according to claim 1, wherein said plurality of laser diodes in each of the plurality of sets are each a single-cavity laser diode chip having a single light-emission point.

10. A laser apparatus according to claim 2, wherein said plurality of laser diodes in each of the plurality of sets are each a single-cavity laser diode chip having a single light-emission point.

11. A laser apparatus according to claim 1, wherein said block is formed by combining a plurality of planar plates which are stacked in one of a vertical direction and said first direction.

12. A laser apparatus according to claim 2, wherein said block is formed by combining a plurality of planar plates which are stacked in one of a vertical direction and said first direction.

13. A laser apparatus according to claim 11, wherein said plurality of planar plates are arranged in correspondence with steps constituting the stepped shape, respectively.

14. A laser apparatus according to claim 12,

wherein said plurality of planar plates are arranged in correspondence with steps constituting the stepped shape, respectively.